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Structural-functional studies of human transferrin by using *in vitro* mutagenesis.
Chow BK; Funk WD; Banfield DK; Lineback JA; Mason AB; Woodworth RC; MacGillivray RT
Department of Biochemistry, University of British Columbia, Vancouver, Canada.
Current studies in hematology and blood transfusion (SWITZERLAND) 1991, (38) p132-8. ISSN 0258-0330 Journal Code: DWT Contract/Grant No.: DK21739. DK. NIDDK Languages: ENGLISH Document type: JOURNAL ARTICLE. REVIEW; REVIEW; TUTORIAL. (12 Refs.)
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Germ cell regulation of Sertoli cell transferrin mRNA levels. Mar 1990

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Hepatocyte differentiation in vitro: initiation of tyrosine aminotransferase expression in cultured fetal rat hepatocytes. Dec 1989

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An overview of iron metabolism at a molecular level. Nov 1989

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9/7/93 05788818 90094542
Hepatocyte differentiation in vitro: initiation of tyrosine aminotransferase expression in cultured fetal rat hepatocytes.
Shelly LL, Tynan W, Schmid W, Schurz G, Yeoh GC
Department of Physiology, University of Western Australia, Nedlands.
Journal of cell biology (UNITED STATES) Dec 1989, 109 (6 Pt 2) p3403-3409. ISSN 0021-9523 Journal Code: HMV Languages: ENGLISH
Document type: JOURNAL ARTICLE

9/7/93 05788818 90094542
Fetal rat hepatocyte culture system has been used to study the molecular mechanisms of tyrosine aminotransferase (TAT) gene expression during development. It has previously been shown that TAT activity can be detected in 19-d, but not 15-d, gestation hepatocytes on the first day of culture (Yeoh, G. C. T., F. A. Bennett, and I. T. Oliver. 1979. Biochem. J. 180:153-160). In this study enzyme activity, synthesis, and mRNA levels were determined in hepatocytes isolated from 13-, 15-, and 19-d gestation rats maintained in culture for 1, 2, or 3 d and exposed to dexamethasone. TAT expression is barely detectable in 13-d gestation hepatocytes even after 3 d in culture. Hepatocytes isolated from 15-d gestation fetuses have undetectable levels of enzyme activity and synthesis on the first day of culture; both can be assayed by days 2 and 3. TAT mRNA levels in these hepatocytes, measured by hybridization with a specific cDNA, increase substantially during culture. TAT activity, synthesis, and mRNA are evident on the first and subsequent days of culture in 19-d gestation hepatocytes. Transcription measurements in isolated nuclei indicate that the increase in TAT mRNA in 15- and 19-d gestation hepatocytes is associated with an increase in transcription of the gene. Immunocytochemical studies demonstrated that the increase in TAT expression correlated with an increase in the proportion of hepatocytes expressing the enzyme, rather than a simultaneous increase in all hepatocytes. These results support the proposal

that a subpopulation of 15-d fetal hepatocytes undergo differentiation in culture with respect to TAT.

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05698479 90039122
An overview of iron metabolism at a molecular level.
Worwood M
Department of Haematology, University of Wales College of Medicine, HeathPark, Cardiff, UK.
Journal of internal medicine (ENGLAND) Nov 1989, 226 (5) p381-91, ISSN 0954-6820 Journal Code: 12G Languages: ENGLISH Document type: JOURNAL ARTICLE; REVIEW; REVIEW LITERATURE
Over the last 10 years there has been steady progress in our understanding of the structure of the iron-binding proteins transferrin and ferritin, and the transferrin receptor. In the last few years there have been very rapid developments in understanding of the genetics of these proteins and the regulation of synthesis. This review includes a description of gene localization and structure, the regulation of protein synthesis and the structure of proteins of the transferrin family, the transferrin receptor and the iron storage protein ferritin. (94 Refs.)

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Transient transcriptional inhibition of the transferrin gene by cyclic AMP. Sep 23 1985

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Interactions of DNA-binding proteins with the 5' region of the human transferrin gene. Jul 25 1988

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Transferrin synthesis by inducer T lymphocytes. Mar 1986

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Expression of the transferrin receptor gene during the process of mononuclear phagocyte maturation. Feb 15 1986

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The human transferrin gene: 5' region contains conserved sequences which match the control elements regulated by heavy metals, glucocorticoids and acute phase reaction. 1986

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Transferrin gene expression and synthesis by cultured choroid plexus epithelial cells. Regulation by serotonin and cyclic adenosine 3',5'-monophosphate. Jun 5 1989

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Expression from the transferrin gene promoter in transgenic mice. Nov 1989

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Role of the cytoskeleton in laminin induced mammary gene expression. Apr 1988

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Transferrin gene expression in choroid plexus of the adult rat brain. Apr 1987

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Transferrin mRNA level in the mouse mammary gland is regulated by pregnancy and extracellular matrix. Dec 25 1987

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Stage-dependent levels of specific mRNA transcripts in Sertoli cells. May 1987

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Estrogen regulation of the avian transferrin gene in transgenic mice. Apr 1986

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Transferrin gene expression visualized in oligodendrocytes of the rat brain by using in situ hybridization and immunohistochemistry. Oct 1985

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High prealbumin and transferrin mRNA levels in the choroid plexus of rat brain. Mar 29 1985

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Expression of human hepatic genes in somatic cell hybrids. May 1982

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An artefact explains the apparent association of the transferrin receptor with a ras gene product. Oct 18-24 1984

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Expression of the chicken transferrin gene in transgenic mice. Sep 1983

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Specific expression of transferrin genes. Foreign genes, which were transferred into mice, appear to be expressed according to more normal patterns of tissue distribution [news] Dec 2 1983

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Selective block of albumin gene expression in chick embryo hepatocytes cultured without hormones and its partial reversal by insulin. Dec 25 1983

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Expression of the transferrin gene during development of non-hepatic tissues: high level of transferrin mRNA in fetal muscle and adult brain. Jul 18 1984

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Mapping of aminocyclase-1 and β -galactosidase-A to homologous regions of human chromosome 3 and mouse chromosome 9 suggests location of additional genes. Mar 1982

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Expression of human hepatic genes in mouse hepatoma-human amniocyte hybrids. Jan 1979

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The relation between transferrin locus and the breeding quality traits of our country cattle race: lowland black-white and lowland red-white. 1978

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Expression of human hepatic genes in somatic cell hybrids.
Darlington GJ, Rankin JK, Schlanger G
Somatic cell genetics (UNITED STATES) May 1982, 8 (3) p403-12, ISSN 0098-0366 Journal Code: VAJ
Languages: ENGLISH Document type: JOURNAL ARTICLE
Four diploid human cell types (lymphocytes, fibroblasts, amniotic fluid cells, and hepatocytes) were fused to mouse hepatoma cells. HH, HH synthesized and secreted several liver-specific gene products including albumin, transferrin, and α -fetoprotein. The resulting interspecific hybrids were compared to determine whether or not the pattern of human hepatic gene expression was similar when these various cells were fused with the

mouse hepatoma line. The expression of six human hepatic genes was examined, including albumin, α -fetoprotein, ceruloplasmin, transferrin, α -1-antitrypsin, and haptoglobin. Albumin was most frequently expressed while α -fetoprotein was not detected in any of the hybrids studied. The patterns of expression of human serum proteins differed between the hybrid series. Hybrids derived from human fibroblasts produced primarily albumin, while those derived from lymphoblastoid cells and amniocytes had a higher frequency of clones secreting α -1-antitrypsin. The findings reported here suggest that the frequency of hybrid clones expressing human hepatic gene products and the array of proteins produced are influenced by the histogenetic state of the human parental cell type.

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04361227 84002242
Expression of the chicken transferrin gene in transgenic mice.
McKnight GS, Hammer RE, Kuenzel EA, Brinster RL
Cell (UNITED STATES) Sep 1983, 34 (2) p335-41, ISSN 0092-8674 Journal Code: CQ4
Languages: ENGLISH Document type: JOURNAL ARTICLE

The chicken transferrin gene was microinjected into the male pronucleus of fertilized mouse eggs, and the eggs were then implanted into foster mothers. Approximately 15%-30% of the offspring from the injected eggs carried chicken DNA sequences; restriction mapping indicated that multiple copies of the chicken gene had integrated into the genome in a tandem arrangement in most of the mice. Six of the seven mice studied expressed the chicken gene, and in five mice there was a 5 to 10 fold preferential expression of chicken transferrin mRNA in liver compared to that in other tissues. Chicken transferrin was secreted into the serum of five of the mice, where it reached steady state concentrations up to 67 micrograms/ml. Offspring from transgenic parents also expressed the chicken gene; in some cases the expression in offspring was very similar to the parent, but in one line expression in offspring had increased 2 to 4 fold.

10/7/189 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
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Specific expression of transferred genes. Foreign genes, which were transferred into mice, appear to be expressed according to more normal patterns of tissue distribution [news]
Marx JL
Science (UNITED STATES) Dec 2 1983, 222 (4627) p1001-2, ISSN 0036-8075 Journal Code: UJ Languages: ENGLISH Document type: NEWS

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A versatile system for receptor-mediated gene delivery permits increased entry of DNA into target cells, enhanced delivery to the nucleus and elevated rates of transgene expression. Aug 2000

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Successful transfection of lymphocytes by ternary lipoplexes. Dec 1999

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Identification of a mutation (A1879G) of transferrin from cDNA prepared from peripheral blood cells. May 1998

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High-yield production of functionally active human serum transferrin using a baculovirus expression system, and its structural characterization. Oct 1 1996

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Sertoli cell-specific expression of the human transferrin gene. Comparison with the liver-specific expression. May 25 1991

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The enhancer of the human transferrin gene is organized in two structural and functional domains. May 25 1991

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Expression of chimeric human transferrin genes in vitro. Dec 1990

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Human transferrin. Expression and iron modulation of chimeric genes in transgenic mice. Aug 5 1990

11/6/9 07343450 90329224
Expression of chimeric human transferrin genes in transfected human tumor cell lines. Jan 1990

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High-efficiency gene transfer mediated by adenovirus coupled to DNA-polylysine complexes. Apr 1992

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Estrogen-dependent expression of the chicken very low density apolipoprotein II gene in serum-free cultures of LMH cells. Jun 1992

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A cloned gene for human transferrin. Dec 27 1991

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Characterization of the active part of the human transferrin gene enhancer and purification of two liver nuclear factors interacting with the TGTTCG motif present in this region. Dec 15 1991

11/7/7 DIALOG(R)File 155:MEDLINE(R) (c) format only 2000 Dialog Corporation. All rts. reserv.
07357540 91178851

Expression of chimeric human transferrin genes in vitro.
Fischbach K, Lu Y, Tiffany-Castiglioni E, Minter A, Bowman BH, Adrian GS

Department of Cellular and Structural Biology, University of Texas HealthScience Center, San Antonio, Texas 78284.

Journal of neuroscience research (UNITED STATES) Dec 1990, 27 (4) p633-41, ISSN 0360-4012 Journal Code: KAC Contract/Grant No.: AG 06872, AG, NIA, AG06650, AG, NIA Languages: ENGLISH Document type: JOURNAL ARTICLE

Transferrin (TF), a major plasma protein, binds and transports ferric iron. Evidence exists for unique roles for TF in brain in oligodendrocyte differentiation, myelination and neuronal development. In this study, 5' flanking regions of the TF gene important in regulating gene expression

were identified by transfected cell studies and a comparison of 5' flanking sequences of the human TF and TF receptor genes. Human glioma cell lines HTB-16 and HTB-17 were shown to synthesize TF identical in size and immunological reaction to TF synthesized by liver. The expression of a series of human chimeric TF genes in glioma cells was compared with hepatoma and HeLa cells. A difference in transferrin expression was observed in hepatoma and glioma cells transfected with TF chimeric genes containing 3.9 kb of the 5' region, hepatoma cells demonstrated significantly more expression than did glioma cells, suggesting that a DNA region present in the 3.9-kb construct is important either in liver-specific expression or in repression of brain expression, or in both. Smaller constructs containing less than or equal to 0.622 kb of the 5' regulatory region of the TF gene failed to demonstrate cell-specific expression; they were expressed in HeLa cells, a line that does not synthesize TF. High levels of expression of 0.15-kb TF constructs were also observed in hepatoma and glioma cell lines, but not in transgenic mice. Possible explanations of differences observed in expression of shorter TF constructs in vitro and in vivo are discussed.

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07343540 90330684

Human transferrin. Expression and iron modulation of chimeric genes in transgenic mice.

Adrian GS; Bowman BH; Herbert DC; Weaker FJ; Adrian EK; Robinson LK; Walter CA; Eddy CA; Riehl R; Pauertstein CJ; et al

Department of Cellular and Structural Biology, University of Texas Health Science Center, San Antonio 78284.

Journal of biological chemistry (UNITED STATES) Aug 5 1990, 265 (22) p13344-50, ISSN 0021-9728 Journal Code: HIV Contrat/Grant No.: AG 06872, AG, NIA; AG 06650, AG, NIA; AG 00165, AG, NIA; + Languages: ENGLISH Document type: JOURNAL ARTICLE

Transferrin (TF) is a plasma protein that transports and is regulated by iron. The aim of this study was to characterize human TF gene sequences that respond in vivo to cellular signals affecting expression in various tissues and iron administration. Chimeric genes were constructed containing 152, 1112 and 1152 base pairs (bp) of the human TF5'-flanking region with the coding region of a reporter gene, CAT (chloramphenicol acetyltransferase), and introduced into the germ line of mice. Transgenes containing TF 5'-flanking sequences to -152 bp were expressed poorly in all tissues examined. In contrast, transgenes containing TF sequences to -622 or -1152 bp were expressed at high levels in brain and liver, greater than or equal to 1000-fold higher than tissues such as heart and testes. Liver and brain are major sites of endogenous TF mRNA synthesis, but liver mRNA levels are 10-fold higher than brain. A significant diminution of CAT enzymatic activity in liver accompanied iron administration in both TF(0.67) and TF(1.2)CAT transgenic mice, mimicking the decrease of transferrin in humans following iron overload. Levels of endogenous plasma transferrin also decreased in iron-treated transgenic mice. Transgenic mouse lines carrying human TF chimeric genes will be useful models for analyzing the regulation of human transferrin by iron and for determining the molecular basis of transferrin regulation throughout mammalian development into the aging process.

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07343450 90332924

Expression of chimeric human transferrin genes in transfected human tumor lines.

Adrian GS; Fischbach K; Lu Y; Gayet O; Rivera E; Bowman BH
Department of Cellular & Structural Biology, University of Texas Health Science Center, San Antonio 78284.

SAAS bulletin, biochemistry and biotechnology (UNITED STATES) Jan 1990, 3 p97-101, Journal Code: ALK Contrat/Grant No.: AG06872, AG, NIA Languages: ENGLISH Document type: JOURNAL ARTICLE

The iron-binding plasma protein transferrin (TF) is essential for supplying iron to cells and the prevention of iron toxicity. Our laboratory has cloned and characterized the human TF gene. Comparison of promoter regions of TF genes from human, chicken, and mouse reveals a strong nucleotide sequence conservation. This study demonstrates that 5' flanking regions of the TF gene are sufficient for directing expression of a heterologous gene in transgenic mice and transfected cells. For cell-specific expression, more than 150 base pairs appear to be required.

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Targeted delivery of plasmid DNA to myogenic cells via transferrin-conjugated peptide nucleic acid. Mar 2000

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Construction and in vitro functional evaluation of a low-density lipoprotein receptor/transferrin fusion protein as a therapeutic tool for familial hypercholesterolemia [see comments] May 1 1999

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Role of catechol siderophore synthesis in *Vibrio vulnificus* virulence. Jul 1996

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[Cloning of double-stranded DNA--a transcript of rat transferrin mRNA] Klonirovanie dvunitevoi DNK--transkripta mRNA transferrina krysy. Jan-Feb 1984

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Human transferrin: cDNA characterization and chromosomal localization. May 1984

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[Mapping of the transferrin gene in laboratory rats, mice and man by direct in situ hybridization] Kartirovanie gena transferrina u laboratornykh krys, myshei i cheloveka metodom priamoi gibrizatsii in situ. Oct 1984

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04609742 84167844

[Cloning of double-stranded DNA--a transcript of rat transferrin mRNA] Klonirovanie dvunitevoi DNK--transkripta mRNA transferrina krysy. Ryskov AP, Timchenko NA, Timchenko LT, Salikhov TA, Galitskhi VS, Molekuliamaia biologiya (USSR) Jan-Feb 1984, 18 (1) p104-14, ISSN 0026-8984 Journal Code: NGX Languages: RUSSIAN Summary Languages: ENGLISH Document type: JOURNAL ARTICLE ; English Abstract

Two-stage synthesis of double-stranded DNA was performed using purified rat transferrin mRNA as a template, reverse transcriptase and DNA polymerase I. Double-stranded transcripts of transferrin mRNA were cloned as recombinant plasmid derivatives of pBR322. The insert length in these plasmids varied from 150 to 1500 bp. Clones carrying transferrin mRNA sequences were identified using colony hybridization and Southern blot hybridization with 32P-dDNA probe. Nick-translated DNAs from transformed clones hybridized with a single component of rat liver polysomal RNA that corresponded to transferrin mRNA in its molecular weight (0.86 MD). In hybridization selection cell-free translation test cloned plasmid DNAs hybridized specifically with rat liver poly(A)+RNA that programmed the cell-free synthesis of a polypeptide identical to pretransferrin in antigenic properties and molecular weight.

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Human transferrin: cDNA characterization and chromosomal localization. Yang F; Lum JB; McGill JR; Moore CM; Naylor SL; van Bragt PH; Baldwin WD; Bowman BH
Proceedings of the National Academy of Sciences of the United States of America (UNITED STATES) May 1984, 81 (9) p2752-6, ISSN 0027-8424 Journal Code: PV3 Contrat/Grant No.: HD16584, HD, NICHD; GM33298, GM, NIGMS Languages: ENGLISH Document type: JOURNAL ARTICLE

Transferrin (TF) is the major iron binding protein in vertebrate serum. It shares homologous amino acid sequences with four other proteins: lactotransferrin, ovotransferrin, melanoma antigen p97, and HuBlym-1. Antigen p97 and the Tf receptor genes have been mapped on human chromosome 3. The goal of the study described here was to initiate the characterization of the Tf gene by identifying and characterizing its cDNA and mapping its chromosomal location. Recombinant plasmids containing human cDNA encoding Tf have been isolated by screening an adult human liver library with a mixed oligonucleotide probe. Within the 2.3 kilobase pairs of Tf cDNA analyzed, there is a probable leader sequence encoded by

57 nucleotides followed by 2037 nucleotides that encode the homologous amino and carboxyl domains. During evolution, three areas of the homologous amino and carboxyl domains have been strongly conserved, possibly reflecting functional constraints associated with iron binding. Chromosomal mapping by in situ hybridization and somatic cell hybrid analysis indicate that the Tf gene is located at q21-25 on human chromosome 3, consistent with linkage of the Tf, Tf receptor, and melanoma p97 loci.

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0413124 85052479

[Mapping of the transferrin gene in laboratory rats, mice and man by direct in situ hybridization] Kartirovanie gena transferrina u laboratornykh krys, myshei i cheloveka metodom priamoi gibrizatsii in situ. Baranov VS, Shvartsman AL, Gorbunova VN, Ryskov AP, Timchenko NA, Genetika (USSR) Oct 1984, 20 (10) p1584-93, ISSN 0016-6758 Journal Code: FNN

Languages: RUSSIAN Summary Languages: ENGLISH Document type: JOURNAL ARTICLE ; English Abstract
Mapping of the gene coding for transferrin was carried out in metaphase chromosomes from bone marrow of laboratory mice and rats as well as from PHA-stimulated human lymphocytes using direct in situ hybridization technique. Plasmid pRT-17 carrying the insert of rat transferrin cDNA was nick-translated with (125I)dCTP and used as a specific hybridization probe. The total number of silver grains and their distribution along differentially stained chromosomes were determined in 464 metaphase plates (114, 263 and 87 from rat, mouse and man, respectively). The data obtained enable us to assign transferrin gene to chromosome 3 in human and chromosome 9 in mouse. For the first time, the rat transferrin gene was localized on chromosome 7. The most probable sites of transferrin gene localization are 7q31-34, 9p1-3 and 3q21 in rat, mouse and human chromosomes, respectively.

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Further studies on targeted DNA transfer to cells using a highly efficient delivery system of biotinylated transferrin and biotinylated polylysine complexed to streptavidin. 1995

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Characterization of newly established testicular peritubular and prostatic stromal cell lines: potential use in the study of mesenchymal-epithelial interactions. Jul 1995

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Utilization of transferrin-bound iron by Haemophilus influenzae requires an intact tonB gene. Feb 1995

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High-efficiency gene transfer to autologous rabbit jugular vein grafts using adenovirus-transferrin/polylysine-DNA complexes. Dec 1994

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Regulation of protein kinase C (PKC) expression by iron: effect of different iron compounds on PKC- β and PKC- α gene expression and role of the 5'-flanking region of the PKC- β gene in the response to ferric transferrin. Nov 15 1994

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Studies on the transfer of DNA into cells through use of avidin-polylysine conjugates complexed to biotinylated transferrin and DNA. 1993

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Pseudomonas aeruginosa LasB mutant constructed by insertional mutagenesis reveals elastolytic activity due to alkaline proteinase and the LasA fragment. Sep 1991

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Influenza virus hemagglutinin HA-2 N-terminal fusogenic peptides augment gene transfer by transferrin-polylysine-DNA complexes: toward a synthetic virus-like gene-transfer vehicle. Sep 1 1992

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[A new expressible VH-gene of the 36-40 family participates in the biosynthesis of antibodies against swine transferrin] Novyi ekspressivnyi VH-gen semeistva 36-40 uchastvuiet v biosintezе antitel protiv svynogo transferrina. Apr 1990

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Gene transfer to respiratory epithelial cells via the receptor-mediated endocytosis pathway. Mar 1992

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Receptor-mediated endocytosis of transferrin-polycation conjugates: an efficient way to introduce DNA into hematopoietic cells. May 1990

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The preparation of poly (dT)⁺5'-transferrin conjugates and hybridisation studies with poly (dA)⁺tailed linearised pBR322 plasmid DNA. Jun 15 1988

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Binding of DNA to albumin and transferrin modified by treatment with water-soluble carbodiimides. Apr 15 1986

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Ability of Neisseria gonorrhoeae, Neisseria meningitidis, and commensal Neisseria species to obtain iron from transferrin and iron compounds. Aug 1981

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Transferrin gene expression. Regulation of mRNA transcription in chick liver by steroid hormones and iron deficiency. Jan 10 1980

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Novel iron uptake system specified by ColV plasmids: an important component in the virulence of invasive strains of Escherichia coli. Dec 1979

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Transferrin gene expression. Regulation of mRNA transcription in chick liver by steroid hormones and iron deficiency.
McKnight GS; Lee DC; Palmiter RD
Journal of biological chemistry (UNITED STATES) Jan 10 1980; 255 (1) p148-53; ISSN 0021-9258 Journal Code: HIV Languages: ENGLISH Document type: JOURNAL ARTICLE

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File 5:BIOSIS Previews(R) 1969-2001/Apr W4 (c) 2001 BIOSIS

Set	Items	Description
S1	18786	TRANSFERRIN
S2	766912	PLASMID? OR EXPRESS?
S3	2995	S1 AND S2
S4	1267	S3 NOT PY=(1992 OR 1993 OR 1994 OR 1995 OR 1996 OR 1997 OR
		1998 OR 1999 OR 2000 OR 2001)
S5	338	S4 NOT RECEPTOR?
S6	6852	TRANSFERRIN/TI
S7	93	S5 AND S6
S8	71493	PLASMID?
S9	13	S6 AND S8 NOT PY=(1992 OR 1993 OR 1994 OR 1995 OR 1997 OR
		1998 OR 1999 OR 2000 OR 2001)
S10	38	S1 NOT S6 AND PLASMID? NOT RECEPTOR

07997033 BIOSIS NO.: 000093052706
CHARACTERIZATION OF THE ACTIVE PART OF THE HUMAN TRANSFERRIN GENE ENHANCER AND PURIFICATION OF TWO LIVER NUCLEAR FACTORS INTERACTING WITH THE TGTTCG MOTIF PRESENT IN THIS REGION 1991

716/2 079945448 BIOSIS NO.: 000093024546
EXPRESSION AND INITIAL CHARACTERIZATION OF FIVE SITE-DIRECTED MUTANTS OF THE AMINO TERMINAL HALF-MOLECULE OF HUMAN TRANSFERRIN 1991

716/3 07835913 BIOSIS NO.: 000041103534
HUMAN TRANSFERRIN EXPRESSION OF CHIMERIC GENES IN TRANSGENIC MICE 1991

716/4 07794723 BIOSIS NO.: 000092087294
DISTURBANCES IN THE EXPRESSION OF GENES DETERMINING TRANSFERRIN POLYMORPHISM IN CARP CYPRINUS CARPIO L 1990 1991

716/5 07746811 BIOSIS NO.: 000092060532
TRANSFERRIN-DIRECTED AND ALBUMIN-DIRECTED EXPRESSION OF GROWTH-RELATED PEPTIDES IN TRANSGENIC SHEEP 1991

716/6 07727807 BIOSIS NO.: 000092052438
EXPRESSION OF TRANSFERRIN MESSENGER RNA IN THE CNS OF NORMAL AND JMPEY MICE 1991

716/7 07726266 BIOSIS NO.: 000092050897
IMMUNOCYTOCHEMICAL LOCALIZATION OF ALBUMIN TRANSFERRIN ANGIOGENIN AND KININOGEN DURING THE INITIAL STAGES OF THE RAT LIVER DIFFERENTIATION 1991

716/8 07681906 BIOSIS NO.: 000092028327
SERIOLI CELL-SPECIFIC EXPRESSION OF THE HUMAN TRANSFERRIN GENE COMPARISON WITH THE LIVER-SPECIFIC EXPRESSION 1991

716/9 07681904 BIOSIS NO.: 000092028325

THE ENHANCER OF THE HUMAN TRANSFERRIN GENE IS ORGANIZED IN TWO STRUCTURAL AND FUNCTIONAL DOMAINS 1991

7/6/10 07634169 BIOSIS NO.: 000092004113
THE DISTRIBUTION OF CEREBRAL EXPRESSION OF THE TRANSFERRIN GENE IS SPECIES SPECIFIC 1991

7/6/11 07623294 BIOSIS NO.: 000040123503
CEREBELLAR DEVELOPMENTAL ALTERATION IN APO E AND TRANSFERRIN GENE EXPRESSION IN PTU-TREATED HYPOTHYROID RATS 1991

7/6/12 07591911 BIOSIS NO.: 000091120700
THE RELEASE OF IRON AND TRANSFERRIN FROM THE HUMAN MELANOMA CELL 1991

7/6/13 07543427 BIOSIS NO.: 000091095505
A TRANSFERRIN-LIKE HEMIFERRIN MESSENGER RNA IS EXPRESSED IN TUBULE CELLS OF RAT TESTIS 1991

7/6/14 07519566 BIOSIS NO.: 000091082695
FETAL ALCOHOL DELAYS THE DEVELOPMENTAL EXPRESSION OF MYELIN BASIC PROTEIN AND TRANSFERRIN IN RAT PBLMARY OLIGODENDROCYTE CULTURES 1991

7/6/15 07505259 BIOSIS NO.: 000091079128
VARIATIONS IN THE LEVEL OF TRANSFERRIN AND SGP-2 MESSENGER RNA IN SERTOLI CELLS OF VITAMIN A-DEFICIENT RATS 1991

7/6/16 07432578 BIOSIS NO.: 000091038567
TISSUE SPECIFIC EXPRESSION OF MOUSE TRANSFERRIN DURING DEVELOPMENT AND AGING 1990

7/6/17 07423147 BIOSIS NO.: 000091029136
FERRITIN AND TRANSFERRIN LEVELS IN HUMAN BREAST CYST FLUIDS RELATIONSHIP WITH INTRACYSTIC ELECTROLYTE CONCENTRATIONS 1990

7/6/18 07371665 BIOSIS NO.: 0000911004345
THE BINDING SITE FOR THE LIVER-SPECIFIC TRANSCRIPTION FACTOR TF-LF1 AND THE TATA BOX OF THE HUMAN TRANSFERRIN GENE PROMOTER ARE THE ONLY ELEMENTS NECESSARY TO DIRECT LIVER-SPECIFIC TRANSCRIPTION IN-VITRO 1990

7/6/19 073717375 BIOSIS NO.: 0000911004055
A NEW EXPRESSIBLE V-H-GENE OF THE 36-60 FAMILY PARTICIPATES IN BIOSYNTHESIS OF ANTIBODIES AGAINST PIG TRANSFERRIN 1990

7/6/20 07319017 BIOSIS NO.: 000090908917
HUMAN TRANSFERRIN EXPRESSION AND IRON MODULATION OF CHIMERIC GENES IN TRANSGENIC MICE 1990

7/6/21 07278668 BIOSIS NO.: 000090058555
MODULATORS OF MACROPHAGE TRANSFERRIN OR TRANSFERRIN-LIKE PROTEIN 1990

7/6/22 07270806 BIOSIS NO.: 000090050685
PERCENT TRANSFERRIN SATURATION IN SEGREGATING HEMOCHROMATOSIS 1990

7/6/23 07259340 BIOSIS NO.: 000090039216
TRANSFERRIN-GENE EXPRESSION IN THE RAT MAMMARY GLAND INDEPENDENCE OF MATERNAL IRON STATUS 1990

7/6/24 07259330 BIOSIS NO.: 000090039206
LOCALIZATION OF TRANSFERRIN MESSENGER RNA IN RAT BY DNA RNA HYBRIDIZATION 1989

7/6/25 07235237 BIOSIS NO.: 000090015110

TRANSFERRIN GENE EXPRESSION AND SECRETION BY RAT BRAIN CELLS IN-VITRO 1990

7/6/26 07145418 BIOSIS NO.: 000038023463
THE STRUCTURE OF THE EXPRESSIBLE VH GENE FROM A HYBRIDOMA PRODUCING MONOCLONAL ANTIBODIES AGAINST PORCINE TRANSFERRIN 1989

7/6/27 07115437 BIOSIS NO.: 000039052131
EXPRESSION OF HUMAN CHIMERIC TRANSFERRIN GENES 1990

7/6/28 07069370 BIOSIS NO.: 000039006063
REGULATION OF TRANSFERRIN GENE EXPRESSION IN TRANSGENIC MICE 1990

7/6/29 06988486 BIOSIS NO.: 000089089750
EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION OF THE RECOMBINANT PROTEIN 1990

7/6/30 06973029 BIOSIS NO.: 000089084789
EXPRESSION OF TRANSFERRIN AND VITAMIN D-BINDING PROTEIN GENES IN AN OSTEOGENIC SARCOMA CELL LINE 1990

7/6/31 06889548 BIOSIS NO.: 000089043477
PULMONARY TRANSVASCULAR FLUX OF TRANSFERRIN 1989

7/6/32 06865305 BIOSIS NO.: 000089014895
EXPRESSION FROM THE TRANSFERRIN GENE PROMOTER IN TRANSGENIC MICE 1989

7/6/33 06809841 BIOSIS NO.: 000088119283
SEGREGATION OF GENETIC HEMOCHROMATOSIS INDEXED BY LATENT CAPACITY OF TRANSFERRIN 1989

7/6/34 06768565 BIOSIS NO.: 000088077998
IDENTIFICATION OF THE TRANSFERRIN AND LACTOFERRIN-BINDING PROTEINS IN HAEMOPHILUS-INFLUENZAE 1989

7/6/35 06762094 BIOSIS NO.: 000088071527
EFFECTS OF IRON OVERLOAD ON TRANSFERRIN SECRETION BY CULTURED FETAL RAT HEPATOCYTES 1989

7/6/36 06728285 BIOSIS NO.: 000088037171
TRANSFERRIN GENE EXPRESSION AND SYNTHESIS BY CULTURED CHOROID PLEXUS EPITHELIAL CELLS REGULATION BY SEROTONIN AND CYCLIC AMP 1989

7/6/37 06727198 BIOSIS NO.: 000088036624
REGULATION OF SERTOLI CELL DIFFERENTIATED FUNCTION TESTICULAR TRANSFERRIN AND ANDROGEN-BINDING PROTEIN EXPRESSION 1989

7/6/38 06705791 BIOSIS NO.: 000088015209
CELL TYPE-SPECIFIC EXPRESSION OF THE HUMAN TRANSFERRIN GENE ROLE OF PROMOTER NEGATIVE AND ENHANCER ELEMENTS 1989

7/6/39 06620121 BIOSIS NO.: 000087062283
MYELIN BASIC PROTEIN AND TRANSFERRIN CHARACTERIZE DIFFERENT SUBPOPULATIONS OF OLIGODENDROCYTES IN RAT PRIMARY GLIAL CULTURES 1988

7/6/40 06447564 BIOSIS NO.: 000037019575
THE REGULATION OF EXPRESSION OF THE TRANSFERRIN GENE IN BRAIN-DERIVED CELL LINES 1989

7/6/41 06365800 BIOSIS NO.: 000036068933
TRANSFERRIN EVOLUTION AND GENETIC REGULATION OF EXPRESSION 1988

7/6/42 06330851 BIOSIS NO.: 000036034004
EXPRESSION OF THE TRANSFERRIN TF GENE IN TRANSGENIC MICE 1988

7/6/43 06264134 BIOSIS NO.: 000086098317
VARIATION OF TRANSFERRIN AND ESTERASE IN SERA OF DOGS 1987

7/6/44 06246102 BIOSIS NO.: 000086080284
INTERACTIONS OF DNA-BINDING PROTEINS WITH THE 5' REGION OF THE HUMAN TRANSFERRIN GENE 1988

7/6/45 06235208 BIOSIS NO.: 000086069390
THE PREPARATION OF POLY-DT-5'-TRANSFERRIN CONJUGATES AND HYBRIDIZATION STUDIES WITH POLY-DA-TAILED LINEARIZED PBR322 PLASMID DNA 1988

7/6/46 06227518 BIOSIS NO.: 000086061700
TRANSFERRIN AN EARLY MARKER OF OLIGODENDROCYTES IN CULTURE 1988

7/6/47 06190720 BIOSIS NO.: 000086024902
TRANSFERRIN SECRETION AND HEPATOCYTE PLOIDY ANALYSIS AT THE SINGLE CELL LEVEL USING A SEMI-AUTOMATIC IMAGE ANALYSIS METHOD 1988

7/6/48 06094245 BIOSIS NO.: 000085057394
TRANSFERRIN MESSENGER RNA LEVEL IN THE MOUSE MAMMARY GLAND IS REGULATED BY PREGNANCY AND EXTRACELLULAR MATRIX 1987

7/6/49 06039094 BIOSIS NO.: 000085002243
MODULATION OF A FETOPROTEIN ALBUMIN AND TRANSFERRIN GENE EXPRESSION BY CELLULAR INTERACTIONS AND DEXAMETHASONE IN COCULTURES OF FETAL RAT HEPATOCYTES 1987

7/6/50 06015917 BIOSIS NO.: 000035107280
EFFECTS OF FE OR TRANSFERRIN TF DEPRIVATION ON HUMAN LEUKEMIA CELL GENE EXPRESSION 1988

7/6/51 06012387 BIOSIS NO.: 000035103750
LEVELS OF TRANSFERRIN IN SEMINIFEROUS TUBULES OF STAGE SYNCHRONIZED TESTES 1988

7/6/52 05991388 BIOSIS NO.: 000035082751
ANALYSIS OF REGULATORY ELEMENTS FOR THE TISSUE SPECIFIC EXPRESSION OF THE MOUSE TRANSFERRIN GENE 1988

7/6/53 05849292 BIOSIS NO.: 000034072441
HUMAN MACROPHAGE MATURATION IN-VITRO EXPRESSION OF FUNCTIONAL TRANSFERRIN BINDING SITES OF HIGH AFFINITY 1987

7/6/54 05848072 BIOSIS NO.: 000034071221
EXPRESSION OF GENES ENCODING THE VITAMIN D BINDING PROTEIN AND TRANSFERRIN 1987

7/6/55 05810440 BIOSIS NO.: 000034033589
CLONING AND STUDY OF THE TRANSFERRIN GENE IN MOUSE 1987

7/6/56 05807985 BIOSIS NO.: 000034031134
EXPRESSION OF THE HUMAN TRANSFERRIN TF GENE 1987

7/6/57 05807905 BIOSIS NO.: 000034031054
HUMAN LACTOTRANSFERRIN GENE LOCALIZES TO 3Q21-23 A REGION CONTAINING TRANSFERRIN-RELATED PROTEINS 1987

7/6/58 05751067 BIOSIS NO.: 000084099474
ACTIVATION OF NEUTROPHIL ALKALINE PHOSPHATASE OF CHRONIC MYELOGENOUS LEUKEMIA IN-VITRO LIQUID CULTURE TRANSFERRIN AS A NAP-ACTIVATING FACTOR 1987

7/6/59 05713727 BIOSIS NO.: 000084062133

DESIALYLATED TRANSFERRIN AS A SEROLOGICAL MARKER OF CHRONIC EXCESSIVE ALCOHOL INGESTION 1987

7/6/60 05686958 BIOSIS NO.: 000084035363
TRANSFERRIN GENE EXPRESSION IN CHOROID PLEXUS OF THE ADULT RAT BRAIN 1987

7/6/61 05601989 BIOSIS NO.: 000083075129
TRANSFERRIN MESSENGER RNA MOLECULAR CLONING AND HORMONAL REGULATION IN RAT SERTOLI CELLS 1987

7/6/62 05560305 BIOSIS NO.: 000083033445
CONTRASTING LEVELS OF TRANSFERRIN GENE ACTIVITY IN CULTURED RAT SERTOLI CELLS AND INTACT SEMINIFEROUS TUBULES 1986

7/6/63 05326382 BIOSIS NO.: 000032049511
IN-VIVO VARIATIONS IN THE LEVEL OF TRANSFERRIN AND SGP-2 MESSENGER RNA IN SERTOLI CELLS FROM VITAMIN A DEFICIENT RATS REJECTED BY IN-SITU HYBRIDIZATION 1986

7/6/64 05308267 BIOSIS NO.: 000032031396
HUMAN TRANSFERRIN TF GENE CONSERVED 5' SEQUENCES AND IN-VITRO EXPRESSION 1986

7/6/65 05203380 BIOSIS NO.: 000082044002
RAT TRANSFERRIN GENE EXPRESSION TISSUE-SPECIFIC REGULATION BY IRON DEFICIENCY 1986

7/6/66 05182601 BIOSIS NO.: 000082023222
BINDING OF DNA TO ALBUMIN AND TRANSFERRIN MODIFIED BY TREATMENT WITH WATER-SOLUBLE CARBODIIMIDES 1986

7/6/67 05162883 BIOSIS NO.: 000082003504
ESTROGEN REGULATION OF THE AVIAN TRANSFERRIN GENE IN TRANSGENIC MICE 1986

7/6/68 05114518 BIOSIS NO.: 000081072642
ACTIVITIES DERIVED FROM ESTABLISHED HUMAN MYELOID CELL LINES REVERSE THE SUPPRESSION OF CELL LINE COLONY FORMATION BY LACTOFERRIN AND TRANSFERRIN 1986

7/6/69 05073284 BIOSIS NO.: 000081031408
A STUDY OF THE MICROHETEROGENEITY OF TRANSFERRIN IN RHOTIC PATIENTS 1985

7/6/70 05065078 BIOSIS NO.: 000081023302
TRANSFERRIN GENE EXPRESSION VISUALIZED IN OLIGODENDROCYTES OF THE RAT BRAIN BY USING IN-SITU HYBRIDIZATION AND IMMUNOHISTOCHEMISTRY 1985

7/6/71 05054557 BIOSIS NO.: 000081003681
A STUDY OF THE TRANSFERRIN AND HEMOGLOBIN POLYMORPHIC SYSTEMS IN THE LOCAL DUBENSKO SHEEP VARIETY 1985

7/6/72 04988436 BIOSIS NO.: 000031063368
TRANSFERRIN GENE EXPRESSION VISUALIZED IN SERTOLI CELLS OF THE RAT BY USING IN-SITU HYBRIDIZATION 1986

7/6/73 04756860 BIOSIS NO.: 000080059987
A-1-ANTITRYPsin TRANSFERRIN ALKALINE PHOSPHATASE PHOSPHOHEXOSE ISOMERASE AND GAMMA GLUTAMYLTRANSFERASE IN BREAST CYST FLUID 1985

7/6/74 04712089 BIOSIS NO.: 000080015215
HIGH PREALBUMIN AND TRANSFERRIN MESSENGER RNA LEVELS IN THE CHOROID PLEXUS OF RAT BRAIN 1985

7/6/75 04663668 BIOSIS NO.: 000079076705

MAPPING OF THE TRANSFERRIN GENE IN LABORATORY RATS AND MICE AS WELL AS IN MAN BY DIRECT IN-SITU HYBRIDIZATION 1984

7/6/76 04597954 BIOSIS NO.: 000079010991
THE ABILITY OF INTESPECIES AND INTESPECIES HYBRID CELLS OF MOUSE HEPATOMA 22A TO SYNTHESIZE SERUM PROTEINS ALBUMIN AND TRANSFERRIN 1984

7/6/77 04531650 BIOSIS NO.: 000029054687
EXPRESSION OF THE GENES OF TRANSFERRIN AND ALDOLASE B DURING DEVELOPMENT OF THE RAT AND THE MOUSE 1984

7/6/78 04361908 BIOSIS NO.: 000078091453
EXPRESSION OF THE TRANSFERRIN GENE DURING DEVELOPMENT OF NONHEPATIC TISSUES HIGH LEVEL OF TRANSFERRIN MESSENGER RNA IN FETAL MUSCLE AND ADULT BRAIN 1984

7/6/79 04313739 BIOSIS NO.: 000078043282
CLONING OF DOUBLE STRANDED DNA TRANSCRIBED FROM RAT TRANSFERRIN MESSENGER RNA 1984

7/6/80 04285730 BIOSIS NO.: 000078015272
PURIFICATION AND CHARACTERIZATION OF TESTICULAR TRANSFERRIN SECRETED BY RAT SERTOLI CELLS 1984

7/6/81 04208930 BIOSIS NO.: 000077034974
EXPRESSION OF THE CHICKEN TRANSFERRIN GENE IN TRANS GENIC MICE 1983

7/6/82 04136239 BIOSIS NO.: 000027045791
IDENTIFICATION CHARACTERIZATION AND MAPPING HUMAN TRANSFERRIN COMPLEMENTARY DNA 1984

7/6/83 03973686 BIOSIS NO.: 000076059252
THERMODYNAMIC BINDING CONSTANTS FOR GALLIUM TRANSFERRIN 1983

7/6/84 03829765 BIOSIS NO.: 000075007838
CORRELATION OF GROWTH RATE WITH CHANGES IN SERUM TRANSFERRIN CONCENTRATIONS IN GROWING BULLS 1982

7/6/85 03633781 BIOSIS NO.: 0000740469358
EXPRESSION OF A HIGH AFFINITY MECHANISM FOR ACQUISITION OF TRANSFERRIN IRON BY NEISSERIA-MENINGITIDIS 1982

7/6/86 03552202 BIOSIS NO.: 000073055283
NATURAL ANTIBODIES AGAINST TUBULIN ACTIN MYO GLOBIN THYRO GLOBULIN FETUIN ALBUMIN AND TRANSFERRIN ARE PRESENT IN NORMAL HUMAN SERA AND MONO CLONAL IMMUNO GLOBULINS FROM MULTIPLE MYELOMA AND WALDENSTROMS MACRO GLOBULINEMIA MAY EXPRESS SIMILAR ANTIBODY SPECIFICITIES 1981

7/6/87 03039988 BIOSIS NO.: 000070065606
TRANSFERRIN CATABOLISM IN MAMMALIAN SPECIES OF DIFFERENT BODY SIZES 1980

7/6/88 02956320 BIOSIS NO.: 000069064438
TRANSFERRIN GENE EXPRESSION REGULATION OF MESSENGER RNA TRANSCRIPTION IN CHICK LIVER BY STEROID HORMONES AND IRON DEFICIENCY 1980

7/6/89 02956319 BIOSIS NO.: 000069064437
TRANSFERRIN GENE EXPRESSION EFFECTS OF NUTRITIONAL IRON DEFICIENCY 1980

7/6/90 02627711 BIOSIS NO.: 000067015771
BEHAVIOR OF MORPHOTIC BLOOD ELEMENTS AND LEVELS OF IRON AND TRANSFERRIN THE BLOOD SERUM OF CALVES EXPERIMENTALLY INFECTED WITH FASCIOLA-HEPATICA TEMATODA 1978

7/6/91 02482152 BIOSIS NO.: 000066064704

THE ACTION OF ESTROGEN AND PROGESTERONE ON THE EXPRESSION OF THE TRANSFERRIN GENE A COMPARISON OF THE RESPONSE IN CHICK LIVER AND OVIDUCT 1978

7/6/92 02355724 BIOSIS NO.: 000065012243
OVO TRANSFERRIN SUBFRACTIONATION DEPENDENT UPON CARBOHYDRATE CHAIN DIFFERENCES 1977

7/6/93 00308946 BIOSIS NO.: 000050123946
ABNORMAL EXPRESSION OF NORMAL TRANSFERRIN ALLELES IN CATTLE 1969

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07945448 BIOSIS NO.: 000093024546

EXPRESSION AND INITIAL CHARACTERIZATION OF FIVE SITE-DIRECTED MUTANTS OF THE AMINO TERMINAL HALF-MOLECULE OF HUMAN TRANSFERRIN

AUTHOR: WOODWORTH R C; MASON A B; FUNK WD; MACGILLIVRAY RT A

AUTHOR ADDRESS: DEP. BIOCHEM, UNIV. VERMONT COLL. MED., BURLINGTON, VERMONT 05482-0068.

JOURNAL: BIOCHEMISTRY 30 (45), 1991, 10824-10829, 1991, FULL JOURNAL NAME: Biochemistry CODEN: BICHA RECORD TYPE:

Abstract LANGUAGE: ENGLISH

ABSTRACT: Five site-directed mutants of the N-terminal half-molecule of human serum transferrin have been expressed in baby hamster kidney cells and purified to homogeneity. Expression levels and overall yields varied considerably from the wild-type protein, depending on the mutant in question. The mutants are D63S, D63C, G65R, K206Q, and H207E and are based on mutations observed in a variety of transferrins of known sequence. Their molecular masses, determined by electrospray mass spectrometry, agree with theory, except for the D63C mutant, which appears to be cysteinylated. All mutants bind iron but with varying affinities; qualitatively, in increasing order D63S, approx. D63C, approx. G65R, mchlt. wild type, lloreq. H207E, mchlt. K206Q. In general, reduction of formal negative charge within the binding cleft shifts the visible spectral maximum of the iron complex toward the blue and reduces the affinity for iron, and increasing the formal negative charge shifts the visible maximum toward the red and increases the affinity for iron. The K206Q mutant is exceptional inasmuch as its visible maximum shows a blue shift, but its affinity for iron is the greatest of all of the mutants studied. All mutants reported, in addition to the wild-type protein, exhibit very similar visible molar extinction coefficients for the iron complex and very similar changes in extinction coefficients at 240 nm on binding Fe(III) or Ga(III). These results suggest that in all cases the bound metal ion is coordinated by two tyrosyl side chains.

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07853913 BIOSIS NO.: 000041103534

HUMAN TRANSFERRIN XPRESSION OF CHIMERIC GENES IN TRANSGENIC MICE

AUTHOR: ADRIAN G S; HERBERT D C; ROBINSON L K; ADRIAN E K; WALTER C A; WEAVER F J; YANG F; BOWMAN B H

AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL. UNIV. TEXAS HEALTH SCI. CENTER, 703 FLOYD CURL DR., SAN ANTONIO, TEX. 78284, USA.

JOURNAL: ALBERTINI, A, ET AL. (ED.) CURRENT STUDIES IN HEMATOLOGY AND BLOOD TRANSFUSION, NO. 58, BIOTECHNOLOGY OF PLASMA PROTEINS: HEMOSTASIS,

THROMBOSIS AND IRON PROTEINS; INTERNATIONAL SYMPOSIUM ON BIOTECHNOLOGY OF PLASMA PROTEINS, FLORENCE, ITALY, APRIL 9-11, 1990. IX+215P. S. KARGER AG: BASEL, SWITZERLAND; NEW YORK, NEW YORK, USA. ILLUS. ISBN 3-8055-5250-5. 0 (0). 1991. 104-108. 1991 CODEN: CSHTRE
RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/8 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts.
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07681906 BIOSIS NO.: 000092028827
SERTOLI CELL-SPECIFIC EXPRESSION OF THE HUMAN TRANSFERRIN GENE COMPARISON WITH THE LIVER-SPECIFIC EXPRESSION

AUTHOR: GUILLOU F; ZAKIN M M; PART D; BOISSIER F; SCHAEFFER E

AUTHOR ADDRESS: LABORATOIRE D'EXPRESSION DES GENE CARYOTES, INSTITUT PASTEUR, 75724 PARIS CEDEX 15, FR.
JOURNAL: J BIOL CHEM 266 (15). 1991. 9876-9884. 1991. FULL.
JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA
RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: We present a comparative study of the cis- and trans-acting elements governing the expression of the human transferrin (Tf) gene in two tissues, liver and testis, where Tf is expressed at various levels. We have previously identified the elements of the promoter, negative, and enhancer regions involved in the liver-specific expression of the gene. By transfection experiments of primary cultured rat Sertoli cells compared with hepatoma cells, DNase I footprinting, and gel retardation studies, we have analyzed 3.6 kilobase pairs of the Tf regulatory region. The far upstream enhancer functional in Hep3B cells is inactive in Sertoli cells; in the two cell types, different nuclear factors appear to bind to a DNA domain crucial for enhancer activity. Similar negative- and positive-acting elements are present in the distal promoter in both tissues. However different combinations of proximal promoter elements control tissue-specific expression. Liver-specific transcription is governed by the interaction of the Tf-LF1 protein and a C/EBP-related factor with the -125 to -45 region. In Sertoli cells, a -34 to -18 TAT box-binding factor is sufficient to initiate basal-level transcription. Efficient expression is achieved by the association of two factors binding either to the (-82, -1) or to the (-153, -52) region. The addition of a third adjacent element decreases the promoter activity, suggesting that the balance of three factors binding to the proximal sites regulates testis-specific expression.

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07681904 BIOSIS NO.: 000092028825

THE ENHANCER OF THE HUMAN TRANSFERRIN GENE IS ORGANIZED IN TWO STRUCTURAL AND FUNCTIONAL DOMAINS
AUTHOR: BOISSIER F; AUGÉ-GOULLOU C; SCHAEFFER E; ZAKIN M M
AUTHOR ADDRESS: LABORATOIRE D'EXPRESSION DES GENE EUCARYOTES, INSTITUT PASTEUR, 75724 PARIS CEDEX 15, FR.
JOURNAL: J BIOL CHEM 266 (15). 1991. 9822-9828. 1991. FULL.
JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA
RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT

7/7/18 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts.
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07377665 BIOSIS NO.: 000091004345

THE BINDING SITE FOR THE LIVER-SPECIFIC TRANSCRIPTION FACTOR TF-LF1 AND THE TATA BOX OF THE HUMAN TRANSFERRIN GENE PROMOTER ARE THE ONLY ELEMENTS NECESSARY TO DIRECT LIVER-SPECIFIC TRANSCRIPTION IN-VITRO

AUTHOR: MENDELZON D; BOISSIER F; ZAKIN M M
AUTHOR ADDRESS: LAB. D'EXPRESSION DES GENES EUCARYOTES, INST. PASTEUR, 28 RUE DU DOCTEUR ROUX, 75724 PARIS CEDEX 15, FRANCE.

JOURNAL: NUCLEIC ACIDS RES 18 (19). 1990. 5717-5722. 1990. FULL.
JOURNAL NAME: Nucleic Acids Research CODEN: NARHA
RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: We have studied the liver-specific transcriptional activity of the human transferrin gene promoter. Results of competition experiments, site-directed mutagenesis, and 5' deletion analysis have demonstrated that a TATA box and a binding site for the liver-specific protein Tf-LF1 are the only elements needed to direct hepatic-specific transcription in vitro. Thus, Tf-LF1 behaves as other previously described proteins, HNF-1, DBP and LF-A1, in that it is sufficient to confer liver-specific transcriptional activity to a promoter in vitro. This results contrast with observations made in transient expression experiments, in which Tf-LF1 binding alone cannot direct hepatic-specific expression, and the binding of at least one more protein, similar to C/EBP, is needed. Thus, as described for other hepatic genes, the number of elements necessary to confer tissue specificity is different in vivo and in vitro.

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07319017 BIOSIS NO.: 000090098917

HUMAN TRANSFERRIN EXPRESSION AND IRON MODULATION OF CHIMERIC GENES IN TRANSGENIC MICE

AUTHOR: ADRIAN G S; BOWMAN B H; HERBERT D C; WEAKER F J; ADRIAN E K; ROBINSON L K; WALTER C A; EDDY C A; RIEHL R; ET AL
AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL., UNIVERSITY TEXAS HEALTH SCI. CENTER, SAN ANTONIO, TEXAS 78284.

JOURNAL: J BIOL CHEM 265 (22). 1990. 13344-13350. 1990. FULL.
JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA
RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: Transferrin (Tf) is a plasma protein that transports and is regulated by iron. The aim of this study was to characterize human Tf gene sequences that respond in vivo to cellular signals affecting expression in various tissues and to iron administration. Chimeric genes were constructed containing 152, 622, and 1152 base pairs (bp) of the human Tf 5'-flanking region with the coding region of a reporter gene, CAT (chloramphenicol acetyltransferase), and introduced into the germ line of mice. Transgenes containing Tf 5'-flanking sequences to -152 bp were expressed poorly in all tissues examined. In contrast, transgenes containing Tf sequences to -622 or -1152 bp were expressed at high levels in brain and liver, 1000-fold higher than tissues such as heart and testes. Liver and brain are major sites of endogenous Tf mRNA synthesis, but liver mRNA levels are 10-fold higher than brain. A significant diminution of CAT enzymatic activity in liver accompanied iron administration in both Tf(0.67) and Tf(1.2)CAT transgenic mice, mimicking the decrease of transferrin in humans following iron overload. Levels of endogenous plasma transferrin also decreased in iron-treated transgenic mice. Transgenic mouse lines carrying human Tf chimeric genes will be useful models for analyzing the regulation of human transferrin by iron and for determining the molecular basis of

transferrin regulation throughout mammalian development into the aging process.

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07235237 BIOSIS NO.: 000090015110

TRANSFERRIN GENE EXPRESSION AND SECRETION BY RAT BRAIN CELLS IN-VITRO

AUTHOR: ESPINOSA DE LOS MONTEROS A; KUMAR S; SCULLY S; COLE R; DE VELLIS J

AUTHOR ADDRESS: UNIVERSITY CALIFORNIA AT LOS ANGELES, MENTAL RETARDATION RES. CENTER, 760 WESTWOOD PLAZA, ROOM 68-177 NPI, LOS ANGELES, CALIF. 90024.

JOURNAL: J NEUROSCI RES 25 (4). 1990. 576-580. 1990. FULL.

JOURNAL NAME: Journal of Neuroscience Research CODEN: JNRED
RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: We have previously shown by immunocytochemistry in rat primary glial cultures that transferrin (Tf) is an early developmental marker for oligodendrocytes. The present work addresses the issue of Tf gene expression and synthesis by neural cells in vitro. For this purpose, we used rat embryonic neuronal cultures and newborn glial cultures of astrocytes and oligodendrocytes. Cultured fibroblasts and C6 glioma cells were used as negative controls. We found that Tf mRNA is present in oligodendrocytes, astrocytes, and neurons. However, oligodendrocytes and astrocytes, but not neurons, were shown to synthesize and secrete Tf. Neither fibroblasts nor C6 glioma cells expressed detectable amounts of Tf mRNA. If mRNA levels in astrocyte cultures appeared to be under hormonal control since hydrocortisone markedly reduced message levels. These results show that both astrocytes and oligodendrocytes can synthesize and secrete Tf under cell culture conditions. However, epigenetic factors, such as hydrocortisone, may repress the expression of Tf in astrocytes in vivo.

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07069370 BIOSIS NO.: 000039006063

REGULATION OF TRANSFERRIN GENE EXPRESSION IN TRANSGENIC MICE

AUTHOR: HERBERT D C; SHERIDAN P J; WEAKER F J; WALTER C A; ADRIAN G S; BOWMAN B H

AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL., UNIV. TEXAS HEALTH SCI. CENTER, SAN ANTONIO, TEX.

JOURNAL: ONE HUNDRED AND THIRD ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF ANATOMISTS, PHILADELPHIA, PENNSYLVANIA, USA, APRIL 22-25, 1990. ANAT REC 226 (4). 1990. 43A. 1990 CODEN: ANREA
RECORD TYPE: Citation LANGUAGE: ENGLISH

7/7/29 DIALOG(R)File 5: Biosis Previews(R) (c) 2001 BIOSIS. All rts.
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06988486 BIOSIS NO.: 000089089750

EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION OF THE RECOMBINANT PROTEIN

AUTHOR: FUNK W D; MACGILLIVRAY R T A; MASON A B; BROWN S A; WOODWORTH R C

AUTHOR ADDRESS: DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, BRITISH COLUMBIA V6T 1W5.
JOURNAL: BIOCHEMISTRY 29 (6). 1990. 1654-1660. 1990. FULL.
JOURNAL NAME: Biochemistry

CODEN: BICHA RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: A human liver cDNA library was screened with a synthetic oligonucleotide, complementary to the 5' region of human transferrin mRNA, as a hybridization probe. The full-length human cDNA clone isolated from this screen contained part of the 5' untranslated region, the complete coding region for the signal peptide and the two lobes of transferrin, the 3' untranslated region, and a poly(A) tail. By use of oligonucleotide-directed mutagenesis in vitro, two translational stop codons and a HindIII site were introduced after the codon for Asp-337. This fragment was inserted into two different expression vectors that were then introduced into *Escherichia coli*. As judged by NaDodSO₄-polyacrylamide gel electrophoresis and Western blot analysis, however, recombinant hTF/2N was undetectable in bacteria transformed by these plasmids. Concurrently, we developed a plasmid vector for the expression of recombinant hTF/2N in eukaryotic cells. In this case, a DNA fragment coding for the natural signal sequence, the hTF/2N lobe, and the two stop codons was cloned into the expression vector pNUT, such that the expression of hTF/2N was controlled by the mouse metallothionein promoter and the human growth hormone termination sequences. Baby hamster kidney cells containing this hTF/2N-pNUT plasmid secreted up to 20 mg of recombinant hTF/2N per liter of tissue culture medium. Recombinant hTF/2N was purified from the medium by successive chromatography steps on DEAE-Sephacel, Sephadex G-75, and FPLC on Polyamine SI. The purified protein was characterized by NaDodSO₄-PAGE, urea-PAGE, amino-terminal sequence analysis, UV-visible spectroscopy, iron-binding titration, and proton NMR. By these criteria, the recombinant hTF/2N appeared to behave identically with the proteolytically derived half-molecule, but to show a higher degree of monodispersity than the latter protein. Addition of *m*-fluorotyrosine to the culture medium resulted in random incorporation of this amino acid into cellular protein in lieu of tyrosine. Purified recombinant 19F-1Tyr hTF/2N gave four well-resolved 19F NMR resonances of 20-40 Hz line width, two with suggestions of shoulders.

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06973029 BIOSIS NO.: 000089084789
EXPRESSION OF TRANSFERRIN AND VITAMIN D-BINDING PROTEIN GENES IN AN OSTEOGENIC SARCOMA CELL LINE.
AUTHOR: ADRIAN G S; YANG F; GRAVES D T; BUCHANAN J M; BOWMAN B H
AUTHOR ADDRESS: DEP. CELLULAR STRUCTURAL BIOL., UNIV. TEX. HEALTH SCI. CENT. SAN ANTONIO, TEX. 78284.
JOURNAL: EXP CELL RES 186 (2), 1990, 385-389, 1990 FULL
JOURNAL NAME: Experimental Cell Research
CODEN: ECREA RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: Expression of genes encoding transferrin and the vitamin D-binding protein is described in a cell line, U-2-OS, derived from a human osteogenic sarcoma. The mRNA transcripts of transferrin and vitamin D-binding protein were shown to be the lengths of those found in normal human liver. The cells synthesize and secrete the transferrin and vitamin D-binding proteins, in addition to human albumin and ceruloplasmin. The U-2-OS cells were successfully transfected with chimeric genes carrying 670 bp of the 5' regulatory sequence of the human transferrin gene fused to a reporter chloramphenicol acetyltransferase gene. These data indicate that the appropriate transcriptional factors required for expression of four plasma proteins are produced by U-2 OS nuclei and that the U-2 OS cell line will be useful for studies analyzing regulation of these genes.

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06865305 BIOSIS NO.: 000089014895
EXPRESSION FROM THE TRANSFERRIN GENE PROMOTER IN TRANSGENIC MICE

AUTHOR: IDZERDA R L; BEHRINGER R R; THEISEN M; HUGGENVIK J J; MCKNIGHT G S; BRINSTER R L
AUTHOR ADDRESS: DEP. PHARMACOL, SCH. MED., UNIV. WASHINGTON, SEATTLE, WASHINGTON 98195.
JOURNAL: MOL CELL BIOL 9 (11), 1989, 5154-5162, 1989 FULL
JOURNAL NAME: Molecular and Cellular Biology CODEN: MCEBD
RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: Transferrin is an iron-binding protein that is expressed as a major product in liver and secreted into the plasma. To study the tissue-specific regulatory regions of this gene, the genomic mouse transferrin (mTf) gene was cloned and characterized by partial sequence analysis and S1 nuclease mapping of the transcriptional start site. Fusion genes containing the transferrin gene promoter and 5'-flanking sequences were ligated to the human growth hormone (hGH) gene and used to produce transgenic mice. A deletion construct containing the -581 to +50 region of the transferrin gene was sufficient to direct a high level of liver-specific expression resembling endogenous transferrin gene expression. Deletion to -139 base pairs of 5'-flanking sequence gave a construct which retained liver specificity, but the magnitude of expression decreased severalfold. These results demonstrate the presence of a liver-specific transcriptional element between -139 and +50 and suggest the presence of a distal element between -581 and -139 that can further increase expression. Surprisingly, fusion constructs containing -3 kilobase pairs (kb) of 5'-flanking sequence gave higher levels of mRNA in nonhepatic tissues than did either the -581 or -139 construct. Further studies indicated that the high levels of circulating hGH in these transgenic mice specifically induced the endogenous transferrin and albumin genes in liver and also stimulated the normally low levels of expression of the endogenous transferrin gene in brain, heart, kidney, and muscle. A mutated hGH gene that does not produce activity growth hormone was fused to the -3- to +50-kb transferrin sequences to produce the -3-kb mTf-hGH construct. A liver-specific pattern of expression was observed in transgenic mice harboring the -3-kb mTf-hGH construct, and this mutated transgene was shown to be induced four- to sevenfold by either bovine or human growth hormone. These results demonstrate the presence of a growth hormone-responsive element between -3- and +50 kb in the 5'-flanking region of the mTf gene promoter.

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06728285 BIOSIS NO.: 000088037711
TRANSFERRIN GENE EXPRESSION AND SYNTHESIS BY CULTURED CHOROID PLEXUS EPITHELIAL CELLS REGULATION BY SEROTONIN AND CYCLIC AMP
AUTHOR: TSUTSUMI M; SKINNER M K; SANDERS-BUSH E
AUTHOR ADDRESS: DEP. PHARMACOL. AND PSYCHIATRY, VANDERBILT UNIV. SCH. MED., NASHVILLE, TENN. 37232.
JOURNAL: J BIOL CHEM 264 (16), 1989, 9626-9631, 1989 FULL
JOURNAL NAME: Journal of Biological Chemistry CODEN: JBCHA
RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: Primary cultures of rat choroid plexus epithelial cells were established and used to investigate the role of the choroid plexus in the synthesis and secretion of transferrin. Transferrin gene expression was determined by a Northern blot analysis with a transferrin cRNA probe. A single transferrin mRNA species was detected and found to be the same size as the transcripts in the liver and Sertoli cells. Immunoprecipitation of radiolabeled secreted proteins with an antiserum transferrin antibody demonstrated that cultured choroid plexus epithelial cells synthesize and secrete a 70-kDa species of transferrin. Levels of transferrin secretion by

rat choroid plexus epithelial cells in culture were measured by radioimmunoassay. Treatment of the choroid plexus epithelial cells in culture with cell-permeable cAMP analogs or serotonin led to time- and concentration-dependent changes in the levels of transferrin in the medium. Dibutyl-cAMP and 8-bromo-cAMP decreased the levels of transferrin synthesized and secreted by choroid plexus epithelial cells with an EC₅₀ value of 30 nM. Serotonin, however, increased the levels of transferrin with an EC₅₀ value of 100 nM. A concomitant change in transferrin mRNA concentrations was observed in response to serotonin. These data suggest that the synthesis of transferrin by the choroid plexus is reciprocally regulated by the neurotransmitter serotonin and by regulatory agents coupled to adenylate cyclase. Regulatory agents such as serotonin may have a critical role in modulating the proteins synthesized by the choroid plexus, thereby influencing the composition of the cerebrospinal fluid.

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06330851 BIOSIS NO.: 000036034004
EXPRESSION OF THE TRANSFERRIN TF GENE IN TRANSGENIC MICE
AUTHOR: YANG F; ADRIAN G S; RIEHL R M; HERBERT D C; WEAKER F J; ROBINSON L K; EDDY C A; PAUERSTEIN C J; BOWMAN B H
AUTHOR ADDRESS: UNIV. TEXAS HEALTH SCI. CENT. SAN ANTONIO, TEX. 78284.
JOURNAL: 39TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS, NEW ORLEANS, LOUISIANA, USA, OCTOBER 12-15, 1988. AM J HUM GENET 43 (3 SUPPL.), 1988. A208, 1988
CODEN: AJHGA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

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05810440 BIOSIS NO.: 000034033589
CLONING AND STUDY OF THE TRANSFERRIN GENE IN MOUSE
AUTHOR: CRAMATIKAKIS N; PAPACONSTANTINOU J
AUTHOR ADDRESS: UNIV. TEXAS MED. BRANCH, GALVESTON, JOURNAL: TWENTY-SEVENTH ANNUAL MEETING OF THE AMERICAN SOCIETY FOR CELL BIOLOGY, ST. LOUIS, MISSOURI, USA, NOVEMBER 16-20, 1987. J CELL BIOL 105 (4 PART 2), 1987. 154A, 1987 CODEN: JCLBA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

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05807985 BIOSIS NO.: 000034031134
EXPRESSION OF THE HUMAN TRANSFERRIN TF GENE
AUTHOR: ADRIAN G S; YANG F; BOWMAN B H
AUTHOR ADDRESS: UNIV. TEX. HEALTH SCI. CENT. SAN ANTONIO, TEX. 78284.
JOURNAL: 38TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS, SAN DIEGO, CALIFORNIA, USA, OCTOBER 7-10, 1987. AM J HUM GENET 41 (3 SUPPL.), 1987. A204, 1987
CODEN: AHGAA DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

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05308267 BIOSIS NO.: 000032031396

HUMAN TRANSFERRIN TF GENE CONSERVED 5' SEQUENCES AND IN-VITRO EXPRESSION
AUTHOR: ADRIAN G S, YANG F, BOWMAN B H
AUTHOR ADDRESS: UNIV. TEX. HEALTH SCI. CENT., SAN ANTONIO, TEX.
JOURNAL: 37TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF HUMAN GENETICS, PHILADELPHIA, PA., USA, NOV. 2-5, 1986.
AM J HUM GENET 39 (3 SUPPL.), 1986. A185. 1986
CODEN: AJHG A DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

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05162883 BIOSIS NO.: 000082003504
ESTROGEN REGULATION OF THE AVIAN TRANSFERRIN GENE IN TRANSGENIC MICE

AUTHOR: HAMMER R E, IDZERDA R L, BRINSTER R L, MCKNIGHT G
AUTHOR ADDRESS: LAB. REPRODUCTIVE PHYSIOL., SCH. VET. MED., UNIV. PA., PHILADELPHIA, PA. 19104.

JOURNAL: MOL. CELL BIOL. 6 (4) 1986. 1010-1014. 1986 FULL JOURNAL NAME: Molecular and Cellular Biology CODEN: MCEBDD

RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: The intact chicken transferrin genes was microinjected into fertilized mouse eggs, and the resulting transgenic animals were used to produce lines of mice containing integrated copies of the chicken gene. The levels of expression of the chicken gene to estrogen stimulation was measured

tissues, and the response of the gene to estrogen stimulation was measured after chronic or acute estrogen exposure. Two of the three mouse lines studied maintained stable levels in expression in successive generations of offspring, and the third line had two- to threefold-higher levels in offspring than in the original parent. In the third-line, the original transgenic parent was found to be a mosaic. The chicken transferrin gene was expressed at 10- to 20-fold-higher levels in liver than in any tissue; however, the levels of chicken transferrin mRNA in kidney were higher than expected.

indicating that the tissue specificity was only partial. In all three lines, the foreign gene was induced by estrogen administration. After 10 days of estrogen administration, there was a twofold increase in both transferrin mRNA and transcription of the chicken transferrin gene. A single injection of estradiol led to a fourfold increase in transferrin mRNA synthesis at 4 h.

As a control the levels of mouse albumin were measured, and both the level of albumin mRNA and its rate of transcription declined about twofold after estrogen administration. Our results indicate that the intact chicken gene with 2.2 kilobases of 5' flanking sequence contains signals for both tissue specificity and steroid regulation that can be recognized in mice.

9/6/1 10463257 BIOSIS NO.: 199699084402
Transferrin receptor-independent uptake of dietary transferrin by human hepatoma cells with antisense inhibition of receptor expression. 1996

9/6/2 07248171 BIOSIS NO.: 000090028047
RECEPTOR-MEDIATED ENDOCYTOSIS OF TRANSFERRIN-POLYCATATION CONJUGATES AN EFFICIENT WAY TO INTRODUCE DNA INTO

HEMATOPOIETIC CELLS 1990
9/6/3 07232817 BIOSIS NO.: 000090012690
TRANSFERRIN-POLYCATATION CONJUGATES AS CARRIERS FOR DNA UPTAKE INTO CELLS 1990

9/6/4 07115437 BIOSIS NO.: 000039052131
EXPRESSION OF HUMAN CHIMERIC TRANSFERRIN GENES 1990

9/6/5 06988486 BIOSIS NO.: 00008908750

EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION OF THE RECOMBINANT PROTEIN 1990

9/6/6 06235208 BIOSIS NO.: 000086069390
THE PREPARATION OF POLY-DT-5'- TRANSFERRIN CONJUGATES AND HYBRIDIZATION STUDIES WITH POLY-DA-T-TAILED LINEARIZED PBR322 PLASMID DNA 1988

9/6/7 05182601 BIOSIS NO.: 000082032222
BINDING OF DNA TO ALBUMIN AND TRANSFERRIN MODIFIED BY TREATMENT WITH WATER-SOLUBLE CARBODIMIDES 1986

9/6/8 04663668 BIOSIS NO.: 000079076705
MAPPING OF THE TRANSFERRIN GENE IN LABORATORY RATS AND MICE AS WELL AS IN MAN BY DIRECT IN-SITU HYBRIDIZATION 1984

9/6/9 04329766 BIOSIS NO.: 000078059310
HUMAN TRANSFERRIN COMPLEMENTARY DNA CHARACTERIZATION AND CHROMOSOMAL LOCALIZATION 1984

9/6/10 04313739 BIOSIS NO.: 000078043282
CLONING OF DOUBLE STRANDED DNA TRANSCRIBED FROM RAT TRANSFERRIN MESSENGER RNA 1984

9/6/11 04241248 BIOSIS NO.: 000077067293
ISOLATION OF COMPLEMENTARY DNA CLONES FOR THE HUMAN TRANSFERRIN RECEPTOR 1983

9/6/12 04136239 BIOSIS NO.: 000027045791
IDENTIFICATION CHARACTERIZATION AND MAPPING HUMAN TRANSFERRIN COMPLEMENTARY DNA 1984

9/6/13 03935782 BIOSIS NO.: 000076021348
AEROBACTIN MEDIATED UTILIZATION OF TRANSFERRIN IRON 1982

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07115437 BIOSIS NO.: 000039052131
EXPRESSION OF HUMAN CHIMERIC TRANSFERRIN GENES

AUTHOR: ADRIAN G S, RIEHL R, HERBERT D C, WEAKER F J, ADRIAN E K, ROBINSON L K, WALTER C A, EDDY C A, PAUERSTEIN C J, ET AL

AUTHOR ADDRESS: DEP. CELL. STRUCT. BIOL., UNIV. TEX. HEALTH SCI. CENT., SAN ANTONIO, TEX. 78284, USA.

JOURNAL: FNCH, C. E. AND T. E. JOHNSON (ED.), UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY NEW SERIES, VOL. 123.

MOLECULAR BIOLOGY OF AGING; COLLOQUIM, SANTE FE, NEW MEXICO, USA, MARCH 4-10, 1989. XVII+430P. WILEY-LISS: NEW YORK, NEW YORK, USA, ILLUS. ISBN 0-471-56721-3. 0 (0).

1990. 365-378. 1990 CODEN: USMBD RECORD TYPE: Citation LANGUAGE: ENGLISH

9/7/5 DIALOG(R)File 5:Biois Previews(R) (c) 2001 BIOSIS. All rts. reserv.

06988486 BIOSIS NO.: 00008908750
EXPRESSION OF THE AMINO-TERMINAL HALF-MOLECULE OF HUMAN SERUM TRANSFERRIN IN CULTURED CELLS AND CHARACTERIZATION OF THE RECOMBINANT PROTEIN

AUTHOR: FUNK W D, MACGILLIVRAY R T A, MASON A B, BROWN S A, WOODWORTH R C

AUTHOR ADDRESS: DEPARTMENT OF BIOCHEMISTRY, UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER, BRITISH COLUMBIA V6T 1W5.

JOURNAL: BIOCHEMISTRY 29 (6). 1990. 1654-1660. 1990 FULL JOURNAL NAME: Biochemistry

CODEN: BICHA RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: A human liver cDNA library was screened with a synthetic oligonucleotide, complementary to the 5' region of human transferrin mRNA, as a hybridization probe. The full-length human cDNA clone isolated from this screen contained part of the 5' untranslated region, the complete coding region for the signal peptide and the two lobes of

transferrin, the 3' untranslated region, and a poly(A) tail. By use of oligonucleotide-directed mutagenesis in vitro, two translational stop codons and a HindIII site were introduced after the codon for Asp-337. This fragment was inserted into two different expression vectors that were then

introduced into Escherichia coli. As judged by Na₂SO₄-polyacrylamide gel electrophoresis and Western blot analysis, however, recombinant hTF/2N was undetectable in bacteria transformed by these plasmids.

Concurrently, we developed a plasmid vector for the expression of recombinant hTF/2N in eukaryotic cells. In this case, a DNA fragment coding for the natural signal sequence, the hTF/2N lobe, and the two stop

codons was cloned into the expression vector pNUT, such that the expression of hTF/2N was controlled by the mouse metallothionein promoter and the human growth hormone termination sequences. Baby

hamster kidney cells containing this hTF/2N-pNUT plasmid secreted up to 20 mg of recombinant hTF/2N per liter of tissue culture medium.

Recombinant hTF/2N was purified from the medium by successive chromatography steps on DEAE-Sepharcel, Sephadex G-75, and FPLC on Polyacrylamide. The purified protein was characterized by Na₂DSO₄-PAGE, urea-PAGE, amino-terminal sequence analysis, UV-visible spectroscopy, iron-binding titration, and proton NMR. By these criteria, the recombinant hTF/2N appeared to behave identically with the proteolytically derived

half-molecule, but to show a higher degree of monodispersity than the latter protein. Addition of m-fluorotyrosine to the culture medium resulted in random incorporation of this amino acid into cellular protein in lieu of tyrosine. Purified recombinant 19F-Tyr hTF/2N gave four well-resolved 19F NMR resonances of 20-40 Hz line width, two with suggestions of

shoulders.

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04329766 BIOSIS NO.: 000078059310
HUMAN TRANSFERRIN COMPLEMENTARY DNA

CHARACTERIZATION AND CHROMOSOMAL LOCALIZATION

AUTHOR: YANG F, LUM J B, MCGILL J R, MOORE C M, NAVLOR S L, VAN BRAGT P H, BALDWIN W D, BOWMAN B H

AUTHOR ADDRESS: DIV. GENETICS, UNIV. TEXAS HEALTH SCI. CENT. SAN ANTONIO 7703 FLOYD CURL DRIVE, SAN ANTONIO, TEX. 78284.

JOURNAL: PROC NATL ACADEM SCI U S A 81 (9). 1984. 2752-2756. 1984 FULL JOURNAL NAME: Proceedings of the National Academy of Sciences of the United States of America

CODEN: PNASA RECORD TYPE: Abstract LANGUAGE: ENGLISH
ABSTRACT: Transferrin (Tf) is the major Fe binding protein in vertebrate serum. It shares homologous amino acid sequences with 4 other proteins: lactoferrin, ovotransferrin, melanoma antigen p97 and HbB₁m-1.

Antigen p97 and the Tf receptor genes have been mapped on human chromosome 3. The characterization of the Tf gene was initiated by identifying and characterizing its complementary DNA and mapping its chromosomal location. Recombinant plasmids containing human cDNA encoding Tf were isolated by screening an adult human liver library with a

mixed oligonucleotide probe. Within the 2.3 kbse pairs of Tf cDNA analyzed, there is a probable leader sequence encoded by 57 nucleotides followed by 2037 nucleotides that encode the homologous amino and

carboxyl domains. During evolution, 3 areas of the homologous amino and carboxyl domains were strongly conserved, possibly reflecting functional constraints associated with Fe binding. Chromosomal mapping by in situ hybridization and somatic cell hybrid analysis indicates that the Tf gene is located at q21-22 on human chromosome 3, consistent with linkage of the Tf, Tf receptor, and melanoma p97 loci.

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04313739 BIOSIS NO.: 000078043282

CLONING OF DOUBLE STRANDED DNA TRANSCRIBED FROM RAT TRANSFERRIN MESSENGER RNA

AUTHOR: RYSKOV A P, TIMCHENKO N A, TIMCHENKO L T, SALKHOV T A, GAITSKHOKI V S
AUTHOR ADDRESS: INST. MOL. BIOL., ACAD. SCI. USSR, MOSCOW, USSR.

JOURNAL: MOL. BIOL. (MOSC) 18 (1). 1984. 104-114. 1984 FULL JOURNAL NAME: Molekulyarnaya Biologiya (Moscow) CODEN: MOBIB

RECORD TYPE: Abstract LANGUAGE: RUSSIAN

ABSTRACT: Two-stage synthesis of double-stranded DNA was performed using purified rat transferrin mRNA as a template, reverse transcriptase and DNA polymerase I. Double-stranded transcripts of transferrin mRNA were cloned as recombinant plasmid derivatives of pBR322. The insert length in these plasmids varied from 150-1500 bp [base pairs]. Clones carrying transferrin mRNA sequences were identified using colony hybridization and Southern blot hybridization with 32P-el-complementary DNA probe. Nick-translated DNA from transformed clones hybridized with a single component of rat liver polysomal RNA that corresponded to transferrin mRNA in its MW (0.86 MD [mean deviation]). In hybridization selection cell-free translation test, cloned plasmid DNA hybridized specifically with rat liver poly(A)+RNA that programmed the cell-free synthesis of a polypeptide identical to pretransferrin in antigenic properties and MW.

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04241248 BIOSIS NO.: 000077067293

ISOLATION OF COMPLEMENTARY DNA CLONES FOR THE HUMAN TRANSFERRIN RECEPTOR

AUTHOR: SCHNEIDER C, KURKINEN M, GRAVES M
AUTHOR ADDRESS: MEMBRANE IMMUNOL. LAB., IMPERIAL CANCER RES. FUND, LINCOLN'S INN FIELDS, LONDON WC2A 3PX, UK.

JOURNAL: EMBO (EUR. MOL. BIOL. ORGAN) J 2 (12). 1983. 2259-2264.

1983 FULL JOURNAL NAME: EMBO (European Molecular Biology Organization) Journal CODEN: EMJOD RECORD TYPE: Abstract LANGUAGE: ENGLISH

ABSTRACT: A complementary DNA clone bank containing 30,000 clones was constructed from sucrose gradient-fractionated mRNA from human placenta. mRNA coding for transferrin receptor (TR) was enriched by polyome immunoadsorbed chromatography with monospecific rabbit IgG and protein-A Sepharose. The library was screened for hybridization to 32P-labeled cDNA synthesized from immunoselected TR mRNA and from poly(A)+ RNA of the polysome fraction that failed to bind to protein-A Sepharose. Plasmids isolated from colonies showing hybridization only to the probe made from immunoselected mRNA were then subjected to hybrid selection. Two clones, pTR-48 and pTR-67, were able to hybridize the mRNA coding for the TR.

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04136239 BIOSIS NO.: 000027045791

IDENTIFICATION CHARACTERIZATION AND MAPPING HUMAN TRANSFERRIN COMPLEMENTARY DNA

AUTHOR: YANG F, LUM J B, MCGILL J R, MOORE C M, VAN BRAGT P H, BALDWIN W D, BOWMAN B H
AUTHOR ADDRESS: UNIV. TEX. HEALTH SCIENCE CENTER, SAN ANTONIO, TEX. 78284.

JOURNAL: SYMPOSIUM ON GENES AND CANCER HELD AT THE 13TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA - LOS ANGELES) SYMPOSIUM, LOS ANGELES, CALIF. USA, FEB. 11-17, 1984. J CELL BIOCHEM 0 (8 PART A). 1984. 42. 1984 CODEN: JOBSD
DOCUMENT TYPE: Meeting RECORD TYPE: Citation LANGUAGE: ENGLISH

10/6/1 12893868 BIOSIS NO.: 200100103017
Novel gene delivery systems: Complexes of fusogenic polymer-modified liposomes and lipoplexes. 2001

10/6/2 12786756 BIOSIS NO.: 200000540379
Rev-binding aptamer and CMV promoter act as decoys to inhibit HIV replication. 2000

10/6/3 12731730 BIOSIS NO.: 200000485232
Rev-binding aptamer and CMV promoter act as decoys to inhibit HIV replication. 1999

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Requirement of the Pseudomonas aeruginosa tonB gene for high-affinity iron acquisition and infection. 2000

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10/6/8 12328409 BIOSIS NO.: 200000081911
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10/6/9 12001050 BIOSIS NO.: 199900281569
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10/6/10 11840735 BIOSIS NO.: 199900086844
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10/6/11 11769149 BIOSIS NO.: 199900015258
Invasion of Caco-2 cells and iron-acquiring mechanisms by enterovirulent Escherichia coli isolates. 1998

10/6/12 11697735 BIOSIS NO.: 199800479466
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Controlled gene delivery by DNA-gelatin nanospheres. 1998

10/6/14 11609830 BIOSIS NO.: 199800391593
Enhancement of cationic liposome-mediated transfection by lactoferrin. 1998

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10/6/18 10513372 BIOSIS NO.: 199699134517
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Identification of a locus involved in the utilization of iron by Haemophilus influenzae. 1994

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10/6/25 08888980 BIOSIS NO.: 199396040481
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10/6/26 08878125 BIOSIS NO.: 199396029626
Presence of a capsule in Vibrio vulnificus biotype 2 and its relationship to virulence for eels. 1993

10/6/27 08113399 BIOSIS NO.: 000093112747
YERSINIA-RUCKERI PRODUCES FOUR IRON-REGULATED OUTER MEMBRANE PROTEINS BUT DOES NOT PRODUCE DETECTABLE SIDEROPHORES 1991

10/6/28 08050149 BIOSIS NO.: 000093083497
MAINTENANCE OF LIVER FUNCTION IN LONG TERM CULTURE OF HEPATOCYTES FOLLOWING IN-VITRO OR IN-VIVO HA-RAS-E-J TRANSFECTION 1991

10/6/29 07974309 BIOSIS NO.: 000093041887
VIRULENCE-ASSOCIATED FACTORS OF SALMONELLA FROM MOLECULAR BIOLOGY TO DIAGNOSIS 1991

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IRON REGULATION OF SERRATIA-MARCESCENS HEMOLYSIN GENE EXPRESSION 1988

10/6/32 06054493 BIOSIS NO.: 000085017642
TRANSFORMATION OF DIFFERENTIATED RAT HEPATOCYTES WITH ADENOVIRUS AND ADENOVIRUS DNA 1987

10/6/33 04051254 BIOSIS NO.: 000026044314
THE GENETICS OF PLASMID MEDIATED VIRULENCE IN THE MARINE FISH PATHOGEN VIBRIO-ANGUILLARUM 1983

10/6/34 03828780 BIOSIS NO.: 000075006853
CHARACTERIZATION OF THE TRANSLATION PRODUCTS OF THE MAJOR
MESSENGER RNA SPECIES FROM RABBIT LACTATING MAMMARY
GLANDS AND CONSTRUCTION OF BACTERIAL RECOMBINANTS
CONTAINING CASEIN AND A LACT ALBUMIN COMPLEMENTARY DNA
1982

10/6/35 03289746 BIOSIS NO.: 000072017849
OUTER MEMBRANE PROTEINS INDUCED UNDER CONDITIONS OF IRON
LIMITATION IN THE MARINE FISH PATHOGEN VIBRIO-ANGUILLARUM 775
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10/6/36 03253321 BIOSIS NO.: 000071066432
REGULATION OF GENE TRANSCRIPTION BY ESTROGEN AND
PROGESTERONE LACK OF HORMONAL EFFECTS ON TRANSCRIPTION BY
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REL IRON UPTAKE SYSTEM SPECIFIED BY COL.-V PLASMIDS AN
PORTANT COMPONENT IN THE VIRULENCE OF INVASIVE STRAINS OF
ESCHERICHIA-COLI 1979

10/6/38 02876089 BIOSIS NO.: 000019046707
A PLASMID ASSOCIATED WITH VIRULENCE IN THE MARINE FISH
PATHOGEN VIBRIO-ANGUILLARUM SPECIFIES AN IRON SEQUESTERING
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